WHAT IS CLAIMED IS:

1. A method for preparing a mullite composition comprising,

a) forming a mixture of one or more precursor compounds having the elements present in mullite,

b) shaping the mixture into a porous green shape,

c) applying a nucleation control agent to a portion of the porous green shape,

d) heating the porous green shape of step (c) under an atmosphere and to a temperature sufficient to form a mullite composition comprised substantially of mullite grains that are essentially chemically bound wherein the composition has at least two adjoining regions that have substantially different microstructures.

2. The method of Claim 1 wherein the precursor compounds are selected from the group consisting of clay, alumina, silica, fluorotopaz, zeolite, AlF_3 and mixtures thereof.

3. The method of Claim 2 wherein the precursor compound is selected from the group consisting of clay, alumina, silica, fluorotopaz, zeolite, and mixtures thereof.

4. The method of Claim 3 wherein the precursor compounds are a mixture of alumina and clay.

5. The method of Claim 1 wherein the nucleation control agent is a solid particulate.

6. The method of Claim 5 wherein the solid particulate is mullite, a precursor compound having an average particle size an order of magnitude different than the average particle size of the precursor compounds in the porous body or mixtures thereof.

7. The method of Claim 6 wherein the solid particulate is mullite.

8. The method of Claim 1 wherein the heating is to a first temperature and then to a second higher temperature wherein fluorotopaz is formed at the first temperature and the mullite is formed at the second higher temperature.

9. The method of Claim 8 wherein the fluorotopaz formed at the first temperature is formed in an atmosphere comprised of SiF_4.

10. The method of Claims 8 wherein the first temperature is from about 500°C to about 950°C.

11. The method of Claim 10 wherein the first temperature is at least 725°C to about 750°C.

12. The method of Claim 11 wherein the second temperature is at least about 1000°C to at most about 1300°C.

13. A mullite composition comprised substantially of mullite grains that are essentially chemically bound wherein the composition has at least two adjoining regions that have substantially different microstructures.

14. The mullite composition of Claim 13 wherein essentially all of the grains are whiskers.

15. The mullite composition of Claim 13 wherein the stoichiometry of Al_2O_3 to SiO_2 is from about 1.3 to about 3.

16. The mullite composition of Claim 15 wherein the stoichiometry is at most about 2.5.

17. The mullite composition of Claim 16 wherein the stoichiometry is about 1.6 to about 1.85.

18. The mullite composition of Claim 14 wherein the two adjoining regions have an average pore size that is at least an order of magnitude different.

19. The mullite composition of Claim 14 wherein the interface between the adjoining regions is at most 2 mm.

20. The mullite composition of Claim 19 wherein the interface is at most about 0.1 mm.

21. An automotive catalytic converter comprised of the mullite composition of Claim 13.

22. The automotive catalytic converter of Claim 21 wherein the mullite composition has a precious metal washcoat coating on the surface of at least some portion of the mullite grains.

23. The automotive catalytic converter of Claim 22 wherein the precious metal washcoat coating has a thickness that is at most about one half the thickness of the average smallest dimension of the grains coated.

24. A particle trap-oxidation catalyst comprising the mullite composition of Claim 13 wherein at

least a portion of the mullite composition is coated with a catalyst.

25. The particle trap-oxidation catalyst of Claim 24 wherein substantially all of the mullite composition is coated with a catalyst.

26. The particle trap-oxidation catalyst of Claim 24 wherein the mullite composition consists of two adjoining regions.

27. The particle trap-oxidation catalyst of Claim 24 wherein the catalyst is a precious metal washcoat coating.

28. The particle trap-oxidation catalyst of Claim 27 wherein the precious metal washcoat coating has a thickness that is at most about one half of the thickness of the average smallest dimension of the grains coated.